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ABSTRACT

The major objective of this research study was to gather information about factors which influence collection development and selection decision making in the Smithsonian Institution Libraries. The user's judgement of the extent to which the collections met his needs is the only parameter of assessment. Museum curators, the bulk of whose time is spent in research, were asked how well the collections met their needs. Also examined were the resources actually utilized by the curators in their research work, and their participation in and perception of the library material selection process. The study was designed to provide information for policy making, but the implications which are drawn must be considered tentative since only the user's point of view is covered. A more complete analysis must also consider the perspectives of librarians and administrators of the Smithsonian Institution. (Author/SJ)

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Collection Development and Selection Decision-Making at the Smithsonian Institution Libraries

A SURVEY OF THE CURATORS OF THE NATIONAL MUSEUM OF NATURAL HISTORY AND THE NATIONAL MUSEUM OF HISTORY AND TECHNOLOGY

LI 003 471

CONTENTS

		Page
List of Tables		iii
Preface		iv
Summary		v
I.	Introduction	1
	A. Objectives	1
	B. Limitations	1
	C. Design of the Research	2
II.	The Respondents	4
	A. Principal Activities	4
	B. Priorities for the Smithsonian Institution Libraries	5
III.	Assessment of the Collections	7
	A. Level of Assessment Score	7
	B. Level of Assessment Scores in the Two Museums	9
	C. Variables Which Predict Level of Assessment Scores in the National Museum of Natural History: Results of a Stepwise Regression Analysis	12
IV.	Utilization of Library and Information Resources.	15
	A. Total Number of Libraries Used	15
	B. Number of Collections Used Within the Smithsonian Institution	17
	C. The "Primary Library"	17
V.	The Selection Decision-Making Process	20
	A. Participation in the Selection Process	20
	B. Perception of the Selection Process	24
VI.	Conclusions: Implications for Research and Policy Making	30
	A. Implications for Further Research	30
	B. Implications for Policy Making in the Smithsonian Institution Libraries	31

CONTENTS (Cont'd)

	Page
Appendix A	35
Appendix B	41
Appendix C	42
Appendix D	43
Footnotes	46
References	49

LIST OF TABLES

		Page
Table 1	Respondents' Allocation of Professional Time.....	4
Table 2	Respondents' Opinion of How Additional Funds Should be Allocated for Library Purposes.....	5
Table 3	Respondents' Assessment of the Level at Which The Smithsonian Institution Libraries' Collections Support Their Research Projects and Studies.....	10
Table 4	Stepwise Regression Analysis: Multiple Correlation Coefficients (National Museum of Natural History Only)	13
Table 5	Total Number of Libraries Used by Respondents.....	16
Table 6	Total Number of Smithsonian Institution Libraries' Collections Used by Respondents	17
Table 7	Type of Library Most Frequently Used by Respondents: "Primary Library"	18
Table 8	Changes in the Number of Requests for New Titles if More Funds Were Available	21
Table 9	Number of Titles Requested in The Respondents' Own Field	22
Table 10	Number of Titles That Would be Requested in the Respondents' Own Field If More Funds Were Available	22
Table 11	Number of Titles Requested in Other Fields	23
Table 12	Number of Titles That Would Be Requested in Other Fields If More Funds Were Available	23
Table 13	Respondents' Perception of The Curators' Present Role in The Selection of Materials	26
Table 14	Extent of Responsibility That Would Be Preferred For Curators By The 28 Respondents in NMNH Who Did Not Know Who Had Responsibility For Selection Of Materials (See Table 13)	27
Table 15	Respondents' Perception Of The Present Responsibility Of Department Chairmen, Librarians, and The Library Director In the Selection Process	28

PREFACE

This is a report of a survey conducted while I was a Visiting Research Associate at the Smithsonian Institution Libraries, from September, 1970 to June, 1971. The assignment provided me with a unique opportunity to observe, and to some extent to participate in, the operations of a research library. During this time I received the cooperation of the staff of the Smithsonian Institution Libraries. Especially valuable was the guidance of Dr. Russell Shank, the Director of Libraries. I frequently turned for advice to Miss Jean Smith, Special Assistant for Biological Programs. Dan Clemmer, Assistant to the Director, aided in many ways.

I conducted a number of interviews in the initial phases of the study and during the period in which the questionnaire was pretested and revised. The Smithsonian librarians with whom I talked were extremely frank and helpful. The curators who were interviewed were cooperative and willing to discuss library matters.

Faculty members of the University of Maryland School of Library and Information Services assisted throughout the study. Dr. James Liesener was consulted in the initial phases of my work; Dr. Edwin Olson aided in the design of the questionnaire, and Dr. Michael Reynolds helped to guide my observations and the direction of my inquiries throughout the study.

SUMMARY

The major objective of the study was to gather information about factors which influence collection development and selection decision making in the Smithsonian Institution Libraries. A questionnaire was sent to the curators in the National Museum of Natural History and the National Museum of History and Technology.

The factors studied were:

(1) the curators' assessment of the levels at which the collections of the Smithsonian Institution Libraries meet their needs;

(2) the libraries and information resources utilized by the curators in carrying out their research projects and studies;

(3) the curators' participation in and perception of the processes by which materials are selected for addition to the collection of the Smithsonian Institution Libraries.

Sixty-four curators in the National Museum of Natural History and twenty-eight curators in the National Museum of History and Technology responded to the questionnaire. The respondents are primarily engaged in research, and spend more than one quarter of their time in curatorial and public service activities. They are library users who believe that collection development (in the sense of adding more books and journals to the collection) is the highest priority for the Smithsonian Institution Libraries.

(1) Assessment of the collections: The curators were asked to assess the levels at which the collections of the Smithsonian Institution Libraries meet the needs of their research projects and studies. Curators in the National Museum of Natural History tend to assess the collections at higher levels than do curators in the National Museum of History and Technology.

A stepwise regression analysis performed on data collected in the National Museum of Natural History indicated that utilization of library and information resources is the best predictor of the curators' assessment of the collection.

(2) Utilization of library and information resources: Patterns of utilization differ between the two museums. Respondents in the National Museum of Natural History, in contrast to those in the National Museum of History and Technology, use more department and division collections within the Smithsonian Institution, but use fewer total libraries.

Twenty percent of the respondents in the National Museum of Natural History depend primarily upon personal collections. No respondents in the National Museum of History and Technology depend primarily upon personal collections; by contrast, they are more dependent upon libraries outside of the Smithsonian Institution than are respondents in the National Museum of Natural History.

(3) The selection decision making process: The majority of respondents did recommend titles for acquisition by the Smithsonian Institution Libraries during the past year. They indicated that if more funds were available they would request even more titles. Forty-three percent of the respondents in the National Museum of Natural History and 22 percent of the respondents in the National Museum of History and Technology, however, did not participate in the selection of materials.

Most respondents believe that curators now have the major responsibility for selecting materials in their own subject fields, and they believe that this is a desirable situation. Few respondents believe that department chairmen, librarians or the library director now have or should have a major role in selecting materials. Almost half of the respondents in the National Museum of Natural History, however, indicated that they do not know who now has responsibility for selecting materials; they, too, prefer that the curators have the major role.

Some implications of the findings were discussed. Several areas which offer potential for further research were mentioned. They are: 1) user evaluation of collections; 2) differences among disciplines; and 3) organizational behavior. Implications of the findings for policy making in the Smithsonian Institution Libraries were described. These include: 1) guidelines for collection development; 2) opportunities for increased cooperative activity; 3) strengthening of technical services to facilitate access to materials; 4) improving communications with curators; and 5) developing a public information clearinghouse within the Smithsonian Institution Libraries.

I. INTRODUCTION

A. Objectives

The major objective of the study was to gather data on factors which influence collection development and selection decision making in the Smithsonian Institution Libraries. [1] The factors studies were:

1) the curators' assessment of the levels at which the Libraries' collections meet their needs;

2) the libraries and information resources utilized by the curators in pursuing their research projects and studies;

3) the curators' participation in and perception of the processes by which materials are selected for addition to the collections of the Smithsonian Institution Libraries.

The Smithsonian Institution Libraries was undergoing change at the time the study was initiated. Organizational and personnel changes had occurred and more were anticipated. Policies were being formulated; in particular, a collection development policy statement was being prepared by the library staff. A questionnaire was designed to collect data not presently available which could facilitate policy formulation.

B. Limitations

The study was not designed to examine all of the factors involved in collection development or selection decision making. The variables studied were chosen because of a combination of theoretical, methodological and practical considerations. Only the perspectives of the users are discussed; a more complete analysis must also consider the perspectives of the librarians and the administrators of the Smithsonian Institution. [2]

C. Design of the Research

The first three months of the study were spent observing library operations and interviewing librarians and curators. During December, 1970, a questionnaire was designed, pretested and revised. (See Appendix A.) The questionnaire was mailed in late January to all curators in the National Museum of Natural History (N = 117) and all curators in the National Museum of History and Technology (N = 54.)*
The population was based upon the Smithsonian Institution Directory for 1970; additional information was provided by the administrative staff of each Museum.

In late February a follow-up letter was sent to non-respondents. (See Appendix B.) Two weeks later phone calls were made to those who had not yet responded. As a result of the phone calls, it was learned that a number of curators were away from the Washington, D.C. area at the time the study was being conducted; these curators were eliminated from the sample. The response rate for curators actually present in the D.C. area was 63 percent in NMNH (N = 64) and 54 percent in NMHT (N = 28). (See Appendix C for an analysis of returns.)

More important than rate of response, however, is the question of non-response bias. That is, how representative of the population of curators is the sample of respondents? Are there any systematic biases which might make generalizations from sample to population invalid?

During follow-up telephone calls, a random sample of curators was queried about their failure to respond. The pressure of other work was the overwelming reason cited for not responding to the questionnaire. None indicated that he was not a library user. In all, only one questionnaire was returned unanswered because the recipient did not use libraries. There is no evidence, therefore, to suggest that the non-respondents were not library users. In fact, the survey suggests that the overwhelming majority of Smithsonian curators do use libraries. (Of course, the non-respondents may differ from the respondents in the way in which they use libraries.)

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*For convenience, the National Museum of Natural History will frequently be referred to as "Natural History" and the National Museum of History and Technology, as "History and Technology."

There may be a non-response bias in the 26 percent of the original Natural History population who were eliminated because of their absence from the Washington, D.C. area. Only one percent of the History and Technology non-respondents were similarly out of town. It has been suggested that 26 percent represents the percentage of curators who, at any time, would be away from the National Museum of Natural History. In the absence of additional information, however, the possibility of bias should be considered when evaluating the Natural History findings.

The results of this report are based upon the 64 completed questionnaires received from Natural History and the 28 questionnaires completed by curators in History and Technology.* After coding and keypunching, the data was processed on the University of Maryland's Univac 1108. (See Appendix D for coding scheme.)

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* Tables in the text may not always total to the full sample sizes because unanswered questions were not included in the tabulations.

II. THE RESPONDENTS

A. Principal Activities

The Smithsonian Institution considers its major mission to be "the increase and diffusion of knowledge"; scholarship and research are encouraged. The curators are similar to scholars and researchers in other research institutes and universities.

No information was gathered on traditional indices of research activity, such as number of publications, number of degrees held, or number of professional meetings attended. The respondents were asked, however, how they allocate their professional time.

The data in Table I indicates that the respondents in both Museums consider research to be their principal activity. Unlike college and university environments, however, teaching and learning activities in the Smithsonian Institution are minimal. Instead, curatorial and public service activities take an average of more than one quarter of the time of curators.

Table I

Respondents' Allocation of Professional Time

Professional Activity	NMNH Respondents Percent*	NMNH Respondents Rank	NMHT Respondents Percent	NMHT Respondents Rank
Research	47	1	35	1
Curatorial	19	2	21	2.5
Administration	18	3	21	2.5
Public Service	11	4	18	4
Teaching and Learning	4	5	4	5
Other	1	6	1	6

* Percentages may not total to 100% because of rounding.

B. Priorities for the Smithsonian Institution Libraries

One item on the questionnaire dealt with the way in which the respondents would allocate additional library funds. The question was included in order to assess the relative priority of collection development among other library activities.

As indicated in Table 2, most respondents feel that additional funds should be devoted primarily to the purchase of more books. The greatest difference between the curators in the two Museums is in the relative importance of buying journals. Respondents in Natural History would allocate 22 percent to the purchase of journals, whereas respondents in History and Technology would allocate only eight percent. This finding may reflect differences between the dominant disciplines represented in the two Museums. Curators in History and Technology are primarily historians. Curators in Natural History are principally scientists; it is well-known that scientists are greatly dependent upon journal literature.

Table 2

Respondents' Opinion of How Additional Funds Should Be Allocated for Library Purposes

Category	NMNH Respondents		NMHT Respondents	
	Percent	Rank	Percent	Rank
"To buy more books"	32	1	45	1
"To buy more journals"	22	2	8	3.5
"To speed up technical processing..."	15	3	17	2
"To hire more clerical and technical assistants"	9	4	8	3.5
"To hire more librarians"	6	5	7	5
"To increase photocopying facilities"	4	7	5	6
"To buy more reference and bibliographic materials"	4	7	4	7.5
"To speed up the delivery of documents..."	3	9	4	7.5
"To make the libraries more comfortable for reading and studying"	1	10	1	9.5
"Other"	4	7	1	9.5

Concern with technical services in the Libraries is reflected by the importance of the categories: "to speed up technical processing..." and "to hire more clerical and technical assistants." The comments of one curator in Natural History seem to summarize this concern:

> "The biggest single need is more money for books... The slowness of technical processing also is a great problem, but it should not be rated the number one problem."

The curators are keenly aware of recent budget cuts. The following is a typical comment:

> "The excellence of the library facilities was an important factor leading me to decide to join the staff of the Smithsonian Institution. To see the library being weakened by...inadequate budgets...is very discouraging. Not only is such weakening a threat today, it is literally building problems for the future."

In view of concern with budget cuts and technical services, it might be expected that among the lowest ranked categories are two "user-oriented" services: making the Libraries more comfortable and speeding up document delivery.

To summarize: The respondents in the two Museums are similar in the way in which they describe their activities and in their assignment of priorities for the Libraries. They are principally researchers; they use libraries, and view collection development (in the sense of adding more books and journals to the collection) as the highest priority for the Smithsonian Institution Libraries.

The following sections will explore: 1) the levels at which the respondents assess the collections of the Smithsonian Institution Libraries; 2) the library and information resources utilized by the respondents; and 3) the respondents' participation in and perception of the selection decision-making process in the Smithsonian Institution Libraries.

III. ASSESSMENT OF THE COLLECTIONS

A. Level of Assessment Score

As previously mentioned, the Smithsonian Institution Libraries has no collection development policy statement. The librarians seem to agree that the collections of the Smithsonian Institution Libraries are strong in some areas and weak in others due to a variety of circumstances, few of which have directly involved a concern with building library collections.

Early in the history of the Smithsonian Institution, the decision not to develop a library was made. As a result the Smithsonian's library collection was transferred to the Library of Congress. This collection formed the basis of the "Smithsonian Deposit" at the Library of Congress. Although the "Smithsonian Deposit" is no longer maintained as a separate collection, the legislation that established it still stands. Curators at the Smithsonian Institution retain the right of access to the Library of Congress and in fact are quite dependent upon the resources of the Library of Congress.

In order to formulate a collection development policy statement, it is necessary to assess the current collection. Various attempts had been made by the library staff to analyze the holdings in terms of their relative strengths in sections of the Dewey Decimal and Library of Congress classification schemes and by broad subject headings. The library staff was not fully satisfied with these attempts.

A somewhat different approach was taken in this study. The collections were not evaluated from the librarians' point of view; rather, the respondents were asked to assess the extent to which the collections of the Smithsonian Institution Libraries support their own research projects and studies. A technique for quantifying the curator's assessments was developed, and is referred to as a "Level of Assessment score."

The Level of Assessment score is a quantitative index of the curator's judgment about the extent to which the Libraries' collection supports his work. Each respondent was instructed first to list all projects or studies in which he has been involved during the past year. He was then asked to indicate the level at which he judged that the collections of the Smithsonian Institution

Libraries support each project. The respondent was requested not to consider materials secured via interlibrary loan. In some cases, of course, users may be unaware that materials have been borrowed; thus Level of Assessment scores may be considered biased toward fuller coverage of a subject than the Smithsonian Institution Libraries may actually provide.

The levels at which the respondents assess the collection range from one to four. They were adapted from Benton's Federal Libraries Resources Study[3] and are similar to the categories used by Shank in Regional Access to Scientific and Technical Information. [4]

Level 1 - supplies basic information (such as is contained in dictionaries, handbooks, and encyclopedias)

Level 2 - covers current knowledge and most important historical aspects (such as is contained in textbooks and basic journals)

Level 3 - includes basic materials required for independent study (but lacks some significant materials)

Level 4 - includes most materials required for independent study

Despite obvious ambiguities in the definitions, few respondents had difficulty assigning a level to each project. A mean Level of Assessment score was calculated for each respondent. For example, if a respondent listed only one project and indicated that the collections supported the project with basic materials (level 3), the respondent received a score of 3.0. A respondent who was involved in three studies, one of which was supported with the basic materials (level 3), one of which was supported with current knowledge (level 2), and one of which was supported with most of the materials needed for independent study (level 4), would also receive a score of 3.0.

This technique, as all aggregative measures, obviously loses some information about individual projects. It was selected, however, because it provided a single, quantitative criterion which, to some extent, expresses an overall judgment.

Level of Assessment score is a "user-oriented" rather than a "project" or "resource-oriented" measure. (It would be possible, however, to develop aggregative measures of Level of Assessment by subject area or by an organizational criterion, such as department.) A further refinement of the Level of Assessment score might involve weighting each score by taking into account the relative importance of a project to the respondent (in terms of time spent on the project, the significance of the project to the curators' long-range interests, or the relation of the project to the goals of the organization).

Information about the extent to which the collections were judged to meet the needs of research projects might be most useful to policy makers in its non-aggregated form. A list of all projects and studies reported and the levels at which they were assessed by the curators is on file.

B. Level of Assessment Scores in the Two Museums

The curators in the two Museums differ in their judgments about the extent to which the Libraries' collections meet their needs. The mean Level of Assessment score for the 64 respondents in Natural History is 2.97, or just below the basic research level. In History and Technology, the mean Level of Assessment score is 1.89, which is below the current knowledge level.

The data in Table 3 emphasize the lower scores in History and Technology. No respondents in History and Technology judge that the collections support their work at the independent study level (level 4), whereas 20 percent of the Natural History respondents judge that the collections support them at the independent study level. Forty-three percent of the History and Technology respondents assess the collections at the basic information level (level 1), as contrasted with only nine percent of Natural History respondents.

TABLE 3

Respondents' Assessment of the Level at Which the Smithsonian Institution Libraries' Collection Supports Their Research Projects and Studies

Level of Assessment Score	NMNH Respondents		NMHT Respondents	
	Number	Percent	Number	Percent
Basic information: 1.0 to 1.9	6	9	12	43
Current knowledge: 2.0 to 2.9	12	19	13	47
Basic research: 3.0 to 3.9	33	52	3	11
Independent Study: 4.0	13	20	0	0

There are a number of factors which might contribute to the lower scores in History and Technology. One factor is the effect of the number of research projects reported by the curators. Respondents in History and Technology are involved in more research projects and studies than respondents in Natural History. The respondents in Natural History report an average of 2.8 projects and studies; the respondents in History and Technology, an average of 3.5. The correlation between number of projects reported and Level of Assessment scores within Natural History, although negative, is not significant ($r = -.131$); there does not appear to be any relation between these variables within History and Technology. Therefore, although there are differences between the respondents in the Museums with respect to the number of projects reported, the number of projects reported does not seem to be related to Level of Assessment scores.

Certainly differences due to the nature of the disciplines represented by the two Museums must affect the curators' judgments. It appears that documents and information serve different roles for scientists and for historians. Historians and scientists are trained differently, and the information upon which they depend is organized, controlled and utilized differently.

Bibliographic search is an integral part of the historian's craft. The needs of historians involved in research frequently can be satisfied only by access to "primary source materials". It may in fact be impossible and even inappropriate for a single library to attempt to serve historians in the same ways in which a single library can serve scientists. 5

Organizational factors must also be considered. The National Museum of History and Technology is a newer collection and the direction of research activities in the Museum seems to be undergoing change. Shortly before the study was undertaken, a new librarian was appointed; the effect of personnel changes might be reflected in the lower scores in History and Technology.

In spite of the emphasis in this report upon the contrasts between the two Museums, it should be clear that the respondents within Natural History and History and Technology do not constitute homogeneous groups. "Natural History" is not generally considered a "discipline"; the departments reflect the variety of subjects which comprise "natural history" as defined by the Smithsonian Institution. Among the departments there is diversity and change. Some departments are taxonomically-oriented; others are moving away from traditional approaches. Some represent fields of knowledge which are expanding at a rapid pace; others represent the maintenance of research interests which may be disappearing from many universities. There are variations among historians as well. Some are oriented toward objects and artifacts; others are more concerned with social, culture and political impact.

The department and division library collections in both Museums also vary markedly. Some are well cared for and frequently used; others suffer from lack of attention. An analysis of Level of Assessment scores by department in both Museums is on file. The differences between departments can provide useful information to policy makers.

C. Variables which Predict Level of Assessment Scores in the National Museum of Natural History: Results of a Stepwise Regression Analysis

The descriptive information presented in the other sections of this report can be useful to policy makers as a guide to planning. Of greater interest to the researcher, however, and perhaps of greater long-range significance to policy makers, are inferential or predictive techniques.

The stepwise regression technique [6] reported in this section was performed on Natural History data only. The number of cases in History and Technology was felt to be too small to make interpretation of the results meaningful.

The study was not designed to include all of the variables which might predict Level of Assessment score. Nevertheless, for exploratory purposes the question was asked: what combination of variables included in this study best predicts Level of Assessment? The search was for that group of items on the questionnaire which, taken together, would provide the most information about a curator's assessment of the collections.

The list of variables and the multiple correlation coefficients (R) for each of the steps of the regression analysis can be found in Table 4.

Table 4

Stepwise Regression Analysis: Multiple Correlation Coefficients
(National Museum of Natural History Only)

Step Number	Variable Entered	Multiple R
1	Total number of libraries used	.303
2	Number of Smithsonian collections used	.395
3	Percent allocated to hire more librarians	.453
4	Percent of time spent in curatorial activity	.497
5	Number of titles requested in own field if more funds were available	.526
6	Percent allocated to hire more clerical and technical assistants	.545
7	Percent allocated to make the libraries more comfortable for reading and studying	.565
8	Percent of time spent in other activities	.579
9	Percent of time spent in public service activities	.591
10	Curators' selection responsibility	.598
11	Percent allocated for reference and bibliographic materials	.605
12	Number of titles requested in own field during the past year	.612
13	Percent allocated for other library purposes	.615
14	Percent allocated to increase photocopying facilities	.621
15	Percent allocated to buying more journals	.627
16	Percent allocated to buying more books	.629
17	Percent allocated to speed up technical processing	.632
18	Number of research projects and studies reported	.633
19	Percent of time spent in teaching and research	.634
20	Preferred responsibility for curators in selecting materials	.634
21	Percent of time spent in administrative activities	.635
22	Percent of time spent in research	.635

The variable which best predicts Level of Assessment Score is the total number of libraries used by a curator. Total number of libraries used is negatively correlated with Level of Assessment Score ($r = -.303$); that is, the more libraries a respondent uses, the lower is the level at which he tends to assess the collections of the Smithsonian Institution Libraries. Total number of libraries used includes department and division collections used within the Smithsonian as well as libraries used outside.

The number of collections used within the Smithsonian is not, by itself, significantly correlated with Level of Assessment score. When, however, total number of libraries used is mathematically subtracted or "partialled out", the effect of number of collections used within the Smithsonian does add significant information about Level of Assessment scores. The correlation between number of collections used within the Smithsonian and Level of Assessment Score is positive; that is, with each additional collection used within the Smithsonian, the respondent tends to assess the total Smithsonian Institution Library collections at a higher level.

The remaining variables are more difficult to interpret. (It is always difficult to interpret partial correlations and multiple R's as the number of variables increases). Further analysis, such as the use of clustering techniques, might provide useful information. The additional steps of the regression analysis, however, add little information about Level of Assessment scores. The Multiple R for variables 1 and 2 is .395; the remaining 20 variables increase the Multiple R by only .24. (It should also be noted that all twenty-two variables included in this analysis account for less than one-half of the variance in Level of Assessment scores ($R = .403$). This confirms that there are important sources of variation in Level of Assessment scores which were not included in this analysis.

To summarize: The Level of Assessment score is a quantitative index (ranging from 1.0 to 4.0) of the curator's judgment of the levels at which the collections of the Smithsonian Institution Libraries support his own research projects and studies. Differences were found between the assessments of curators in the two museums. Curators in Natural History tend to assess the collections at a higher level than do curators in History and Technology. In Natural History the mean Level of Assessment score is just below the basic research level (2.9); in History and Technology it is below the current knowledge level (1.8). A stepwise regression analysis was performed on Natural History data. Information about the utilization of library and information resources -- the total number of libraries used and the number of collections used within the Smithsonian -- was most important in predicting Level of Assessment scores.

IV. UTILIZATION OF LIBRARY AND INFORMATION RESOURCES

Comparatively little research has focused upon the relative utilization of libraries; most research has concentrated upon the use (and to a much lesser extent, non-use) of one library. The findings described in the previous section suggest that greater understanding of the pattern of utilization of library and information resources could yield information of value both to researchers and to system planners. 7

The questionnaire item was adapted from a technique which has been used by E. Olson and others. 8 The respondent is asked to list the libraries and collections of documents which he has used during the past year and to identify each collection individually (including division and department collections). "Use" is defined as personal visits, written requests, phone calls by the user or someone acting for him. Interlibrary loan material, however, is not considered. Next, the user ranks each library in order of the approximate frequency with which it was used, and finally, he indicates the projects or studies for which he used each resource.

Three aspects of utilization of resources were investigated:

1) total number of libraries used;

2) number of department and division collections used within the Smithsonian Institution;

3) the curator's "primary library," i. e., that library most frequently used.

A. Total Number of Libraries Used

As noted in the preceding section there is a significant negative correlation between the total number of libraries used by respondents in Natural History and their Level of Assessment scores; that is, the more libraries used, the lower the Level of Assessment score.

Table 5 compares total number of libraries used by respondents in the two Museums. More libraries are used by History and Technology respondents. Over half of the History and Technology respondents use a total of seven or more libraries.

By contrast only 27 percent of the Natural History respondents use seven or more libraries. This finding emphasizes the historians' special dependence upon primary source materials. A list of the libraries used by respondents is on file. The Library of Congress appears to be the most frequently mentioned library, followed by special manuscript collections and state and local historical associations. [9]

Table 5

Total Number of Libraries Used By Respondents

Number of Libraries Used	NMNH Respondents		NMHT Respondents	
	Number	Percent	Number	Percent
1-2	7	11	1	4
3-4	29	46	6	23
5-6	11	17	5	19
7 and over	17	27	14	54

B. Number of Collections Used Within the Smithsonian Institution

The relationship between number of Smithsonian Institution collections used by Natural History respondents and Level of Assessment scores has been described in the preceding section; that is, when the total number of libraries used is held constant, the number of collections used within the Smithsonian Institution is positively related to Level of Assessment scores.

The data in Table 6 indicates that respondents in Natural History make extensive use of collections in departments and divisions other than their own. Only 18 percent of the History and Technology respondents use more than two collections; 59 percent of the respondents in Natural History use more than two collections within the Smithsonian Institution. The use of decentralized collections has implications for planning and policy making which will be discussed in the final section.

Table 6

Total Number of Smithsonian Institution Libraries' Collections Used by Respondents

Number of Collections	NMNH Respondents		NMHT Respondents	
	Number	Percent	Number	Percent
None	1	2	1	3
1	2	3	13	48
2	23	36	8	29
3	19	30	3	11
4	10	15	2	7
5 and over	9	14	1	3

C. The "Primary Library"

The "primary library" was defined as the library most frequently used by the respondent. There were four categories for coding primary library: 1) personal collections; 2) department or division collections within the Smithsonian Institution; 3) the main branch library of each Museum; and 4) libraries outside of the Smithsonian Institution.

The data in Table 7 confirm what other findings suggest: respondents in History and Technology are less dependent upon collections within the Smithsonian Institution Libraries. Forty-three percent of the respondents in History and Technology depend upon a library outside of the Smithsonian Institution as their most frequently used library.

Table 7

Type of Library Most Frequently Used by Respondents:

"Primary Library"

Type of Library	NMNH Respondents		NMHT Respondents	
	Number	Percent	Number	Percent
Personal collections	13	20	0	0
Department or Division collections	36	56	6	21
Museum Branch Library	14	22	10	36
Outside the Smithsonian Institution	1	2	12	43

Respondents in Natural History make extensive use of department and division collections, and, as noted, use collections in other departments and divisions as well as their own. The dependence of Natural History respondents upon department and division collections may reflect a cross-disciplinary approach to research. It also reflects the strong tradition of decentralization within Natural History. The department and division library collections appear to have greater "official status" within Natural History; one department has its own librarian; until recently, two other departments had librarians assigned to them.

Personal collections were mentioned as the most frequently used resource by 20 percent of the Natural History respondents. The item on the questionnaire does not appear to have been phrased in such a way as to elicit specific information about use of personal collections. The finding that 20 percent of the Natural History respondents depend primarily upon personal collections supports other evidence that scientists prefer easily accessible and informal sources of information.[10] That no curator in History and Technology mentioned use of personal collections seems consistent with what is known about the nature of historical research.

The identity of the primary library among Natural History respondents is not associated with Level of Assessment scores. There are, however, significant negative correlations between use of personal collections and total number of library and information resources used ($r = -.314$), and between use of personal collections and number of collections used within the Smithsonian Institution ($r = -.264$). These findings suggest that curators in Natural History who depend primarily upon personal collections utilize fewer formal sources of information.

To summarize: There were marked differences in patterns of utilization of library and information resources between Museums. Respondents in Natural History, in contrast to those in History and Technology, use more collections within the Smithsonian Institution, but use fewer total libraries. Twenty percent of the respondents in Natural History depend primarily upon personal collections; they tend also to utilize fewer formal sources of information. Respondents in History and Technology, by contrast, use a greater number of libraries and are more dependent upon libraries outside of the Smithsonian Institution.

V. THE SELECTION DECISION-MAKING PROCESS

It is useful to distinguish between development of collections and selection of materials to be added to the collections. Materials may be added to collections, causing the collections to grow (in size and/or scope). The phrase "collection development", however, is used in this report to describe a policy planning activity. A collection development policy guides and directs the selection of materials.

Even in the absence of a stated collection development policy, however, selection decisions are made. Selection decision-making is a behavioral process which affects the growth of the collection. Two components of the selection decision-making process in the Smithsonian Institution were studied. They were: 1) the curators' participation in the selection of materials; and 2) the curators' perception of the process by which materials are added to the collections of the Smithsonian Institution Libraries.

A. Participation in the Selection Process

There was widespread feeling that the present fiscal situation was unusual. Questions were therefore asked not only about the curator's present participation in the selection of titles but also about the number of titles which would be recommended if more funds were available.

In both Museums, as the data in Table 8 shows, the majority of curators would increase the number of their requests if more funds were available. Nineteen percent of the respondents in Natural History, however, would not increase their requests even with the addition of funds. (This may be another indication of the higher level at which the curators in Natural History assess the collections.)

Table 8

Changes in the Number of Requests for New Titles
If More Funds Were Available

Change in Number of Requests	NMNH Respondents		NMHT Respondents	
	Number	Percent	Number	Percent
Would request additional titles	50	81	23	96
Would not request additional titles	12	19	1	4

There is a significant correlation in Natural History between the number of titles requested during the past year and the number of titles which would be requested if more funds were available. ($r = .788$). This suggests that those curators who now request titles will increase their requests. Furthermore, if additional funds were available, the greatest increase in requests would come from curators who spend more of their time on research activities. ($r = .297$).

Separate questions were asked about the number of requests in the respondents' own field and in other fields. Respondents in History and Technology requested more titles than did respondents in Natural History. Forty-three percent of the respondents in Natural History requested no titles; only 11 percent of the respondents in History and Technology made no requests (See Table 9). Curators in History and Technology would also recommend more titles if more funds were available (See Table 10).

Table 9

Number of Titles Requested in the Respondent's Own Field

Number of Requests	NMNH Respondents		NMHT Respondents	
	Number	Percent	Number	Percent
None	20	32	3	11
1-10	25	39	10	34
11-50	8	12	10	36
Over 50	3	5	2	7
Did not know could request titles	7	11	3	11

Table 10

Number of Titles That Would Be Requested in the Respondents' Own Field If More Funds Were Available

Number of Anticipated Requests	NMNH Respondents		NMHT Respondents	
	Number	Percent	Number	Percent
None	8	13	0	0
1-10	12	19	2	7
11-50	27	44	13	46
Over 50	9	15	9	32
Did not know could request	6	10	4	14

Respondents expressed little interest in the selection of materials outside of their own fields, as the data in Table 11 indicates. If funds were increased, more than 40 percent of the respondents in both Museums still would not recommend titles outside of their own fields of interest. (See Table 12).

Table 11

Number of Titles Requested In Other Fields

Number of Requests	NMNH Respondents		NMHT Respondents	
	Number	Percent	Number	Percent
None	45	73	18	64
1-10	7	11	5	18
11-50	3	5	1	4
Over 50	2	3	1	4
Did not know	5	8	3	11

Table 12

Number of Titles That Would Be Requested in Other Fields If More Funds Were Available

Number of Anticipated Requests	NMNH Respondents		NMHT Respondents	
	Number	Percent	Number	Percent
None	29	47	12	43
1-10	18	30	6	21
11-50	8	13	3	11
Over 50	2	3	2	7
Did not know	5	8	5	18

These findings confirm the view of the selection process held by most Smithsonian librarians: a majority of the curators do participate in selecting materials in their own fields. Because they did not recommend titles, or because they did not know that they could recommend titles, however, 22 percent of the respondents in History and Technology did not participate in the selection process. In Natural History the percentage is considerably larger; 32 percent of the respondents did not recommend titles. When this is combined with the 11 percent who did not know that they could make recommendations, 43 percent or more than two-fifths of the Natural History respondents did not participate in the selection process. It should be noted, furthermore, that those who did participate in the selection process did so almost exclusively in their own areas of interest.

B. Perception of the Selection Process

Selection decisions are being made at the Smithsonian Institution Libraries. With increases in funds, more decisions will be made. The question was asked: who has responsibility for the selection of materials?

Responsibility for the selection of materials is an issue which has aroused considerable interest and concern among research librarians. At one extreme is the view that selection should be by expert users in their own subject fields; at the other extreme is the view that selection is the sole responsibility of the professional librarian. Few librarians adhere to either extreme. Most agree that expert users must have a role in the selection of materials; it is the relative role of the expert user and the professional librarian which lies at the heart of the issue. [11]

There are, of course, other considerations involved in selecting materials. [12] Among factors to be considered are the needs of users who do not or who cannot participate in the selection process; the nature and extent of "balance" desired in the collection; and the degree to which the library has assumed regional, national, or international responsibility for developing a special collection.

Library administrators attempt to cope with the problems involved in the selection of materials in a number of ways. Some libraries employ blanket order or approval plans which, to some extent, remove selection decision-making from the librarian. [13] Many libraries have developed carefully defined acquisition policy statements to serve as a guide to selection decision-making. Another trend has been toward the creation of a professional role in academic and research libraries. [14] The title of these professionals may vary -- i. e., subject specialists, bibliographers, selection officers. They perform a variety of duties, but they appear to have in common the responsibility for monitoring and evaluating collections in areas of their own expertise.

The role of selection officer has recently been introduced to the Smithsonian Institution Libraries. There is a feeling among Smithsonian Institution librarians, however, that lack of funds has prevented this system from functioning properly. In a sense, therefore, the findings which follow may be considered a "pretest" which, in time, can be followed by a similar "posttest" to evaluate the effect of selection officers upon the selection decision-making process at the Smithsonian Institution Libraries.

On the questionnaire, each respondent was asked to indicate, in percentages, how much responsibility the curators, department chairmen, librarians and the library director have for the selection of titles in the respondent's own field of interest. The respondent was also asked "... to indicate how much responsibility you believe each should have."

The findings shown in Table 13 are not surprising; 44 percent of the respondents in Natural History and 62 percent in History and Technology believe that curators now have the major responsibility for selection decisions. What is surprising, however, is the large percentage in Natural History -- 48 percent -- who indicate that they do not know who has the responsibility for selection decisions.

Table 13

Respondents' Perception of the Curators' Present Role in The Selection of Materials

Extent of Responsibility	NMNH Respondents		NMHT Respondents	
	Number	Percent	Number	Percent
None	2	3	2	8
Less than 50 percent	3	5	3	12
50 percent or more	14	24	7	27
100 percent	12	20	9	35
Do not know	28	48	5	19

There are several interesting correlations within Natural History. The more collections within the Smithsonian that a respondent uses, the more responsibility he believes that curators should have ($r = .315$). Respondents who depend primarily upon personal collections would like curators to have more responsibility for selecting materials than they now have ($r = -.257$).

Twenty-eight of the respondents in Natural History indicate that they do not know who now has responsibility for the selection of materials. Their replies to the question: "... how much responsibility (do) you believe each should have?" were analyzed separately (See Table 14). Although the 28 curators may not know how the present system operates, most of them do have opinions about how they would prefer that the system operate; they would prefer that curators have most of the responsibility for selection decision making.

Table 14

Extent of Responsibility Preferred For Curators By The 28 Respondents in NMNH Who Did Not Know Who Had Responsibility For Selection of Materials (See Table 13)

Extent of Responsibility Preferred for Curators	NMNH Respondents Number	Percent
None	1	4
Less than 50	2	7
50 or more	15	54
100	5	18
Do not know	5	18

The data in Table 15 reveals what has already been implied; other potential participants in the selection process are viewed as having little or no responsibility for the selection of materials. The respondents do not believe that department chairmen, librarians or the library director now have or should have a major role in selecting materials.

Table 15

Respondents' Perception of the Present Responsibility of Department Chairman, Librarians and the Library Director in the Selection Process

Potential Participants in the Selection Process	Extent of Responsibility	NMNH Respondents Number	NMNH Respondents Percent	NMHT Respondents Number	NMHT Respondents Percent
Department Chairmen	None	22	37	13	50
	Less than 50 percent	7	12	6	23
	50 percent or more	2	3	1	4
	100 percent	0	0	1	4
	Do not know	28	48	5	19
Librarians	None	19	32	12	46
	Less than 50 percent	10	17	7	27
	50 percent or more	2	3	0	0
	100 percent	1	2	0	0
	Do not know	27	46	7	27
Library Director	None	31	53	13	50
	Less than 50 percent	1	2	5	19
	50 percent or more	0	0	0	0
	100 percent	0	0	0	0
	Do not know	27	46	8	31

To summarize: The majority of the respondents did participate in the selection process by recommending titles for acquisition, although 43 percent in Natural History and 22 percent in History and Technology did not. Most respondents indicated that they would request more titles if more funds were available.

The respondents believe that curators now have the major share of the responsibility for selection decision making in their own fields, and they feel that this is a desirable situation. They do not believe that department chairmen, librarians or the library director now have or should have a major role in selecting materials.

Almost half of the respondents in Natural History indicate that they do not know who has responsibility for selection decision making; these respondents also believe that the curators should have most of the responsibility.

VI. CONCLUSIONS: IMPLICATIONS FOR RESEARCH AND POLICY-MAKING

This study was designed to provide information for policy-making. It was in many ways an exploratory study -- exploring concepts and methodologies. The implications which are drawn must be considered tentative.

A. Implications for Further Research

1. User evaluation of collections: In this study only one parameter of the assessment of collections was focused upon: the user's judgment of the extent to which the collections meet his needs. There are obviously other factors which must be considered and other points of view that should be taken into account when evaluating a collection. As an index of user evaluation, however, the Level of Assessment score seems promising. It discriminated among subjects and was related to other variables in interesting ways. Some limitations of the Level of Assessment score and several possible changes in quantification procedures have been mentioned. For a field such as librarianship, which must develop user-oriented evaluative indices, the dimensions and generalizability of Level of Assessment scores seem to merit further investigation.

2. Differences between disciplines: The quantity of information and the rate at which that information increases varies between disciplines and subject fields. Systematic data about the variations is not easily obtained; nevertheless, the existence of differences has been mentioned and must be taken into account when interpreting the findings of this study. The findings tend to support what is known about differences in the information-seeking behavior of historians and scientists; further study of these variations should be undertaken.

Information science, as it is evolving, has been almost exclusively concerned with studying the information-seeking behavior of scientists and engineers (insofar as it has been concerned with studying behavior at all). There are obvious political and economic as well as substantive reasons to account for the concern with scientists and engineers. The subject matter with which they deal is more easily defined, controlled and organized. (The attention which information specialists have given to scientific and technical subjects may have made this more true.) Science and technology, however important and easily studied, constitute but one aspect of the "universe of

knowledge." Insights into the information-seeking behavior of historians and other social scientists and humanists can add greater understanding of the nature of information needs and the requirements for successful information transfer.

3. Organizational behavior: Although the major objective of this study was to gather information for policy making, the framework within which the research was designed was based upon concepts drawn from organization theory. "Organizational domain" and "domain consensus" were described briefly in footnote 1. These notions provided the conceptual framework within which the population served by the Libraries was queried about resources available and services offered. The findings of this study, particularly the results of the stepwise regression analysis, suggest that such a framework can be useful and should be further explored. Additional multivariate analyses and further experimental studies can assist in operationalizing the concepts of "organizational domain" and "domain consensus."

B. Implications for Policy making

1. Collection development: The findings confirm what the Library policy makers already know: the collections of the Smithsonian Institution Libraries have grown at an uneven pace. It seems clear that before specific guidelines can be developed, the policy makers must first decide in what areas and to what extent the Libraries will assume responsibility for collection development. Information gathered in this survey can guide in such decisions. As policy is formulated, the library staff and curators should be consulted and involved.

When resources are allocated for collection development, the unevenness of the collections and differences in subject fields must be taken into account. A fast growing discipline with a large body of information should be allocated more funds than a discipline in which the volume of information available is smaller or increasing less rapidly. Policy decisions must be made about resources allocated to retrospective purchases and those allocated to keeping up with new publications; these decisions will differ in different subject fields.

2. Communications with curators: In the short run, the most significant finding of this study may be that a communications gap does exist between a relatively small group of primary users of the Smithsonian Institution Libraries and the Library policy makers. If so large a percentage of curators is uninformed about the selection of materials, it may be that a similar gap exists in other areas of library policy as well.

There are a number of remedies which can be undertaken by the library administration. Some are simple and inexpensive. The role of advisory committees, for example, might be strengthened. Information about library policies and recent acquisitions might be systematically disseminated to the curators in short memoranda or news letters. The library might encourage user feedback by soliciting queries and suggestions and by publicly responding to some of them.

A more expensive and long-range suggestion is to initiate some form of current awareness service for the curators. As the Libraries move toward automation this should become more feasible. In the long run, strengthening the role of the selection officers may serve not only to improve communications between curators and librarians but also to provide valuable imputs to the policy making process.

3. Technical services: Respondents rank speeding up technical processing and hiring more clerical and technical assistants above more "user oriented" services. The library administrators are aware of the problem in technical services and are devoting attention to it.

Another important finding of this study is that the decentralized department and division collections are extensively used by curators, and that curators (especially in Natural History) make use of collections in divisions and departments other than their own. The tradition of decentralization and the variations in the quality and condition of the decentralized collections have been noted. As research activity becomes increasingly multi-disciplinary, researchers will no doubt make more extensive use of the scattered collections. Therefore, it seems essential that central control of the collections should be maintained and strengthened in order to facilitate access to information by all potential users. Furthermore, the basis upon which titles are assigned to decentralized collections must be made more explicit, so that search strategies can be more efficient.

4. Cooperative programs: One of the major findings of the study is that the total number of libraries used by curators does make a significant difference in their judgments about the collections of the Smithsonian Institution Libraries. Those curators who feel that the collections support them at low levels use a greater number of libraries. This relationship exists despite the considerable attention presently devoted to interlibrary loan activities.

The policy makers of the Smithsonian Institution Libraries must decide if they will attempt to meet all of the needs of their primary users; the policy makers must also decide what other groups are to be served and to what extent their needs will be met.

No research library, however, can aspire to meet the needs of its users by the exclusive use of its own collection. Therefore, greater attention should be given the development of cooperative programs which go beyond traditional interlibrary loan activities. The Smithsonian Institution Libraries has the collection strengths, the favorable location and the status to lead in the development of innovative cooperative programs.

5. Public information clearinghouse: This study has focused upon the research needs of the curators -- the primary users of the Smithsonian Institution Libraries. There are other users of the libraries; the responses of the Exhibits staff, for example, were eliminated from this analysis because their needs were substantially different from those of the curators. Neither have the needs of the public, which in large measure supports the Smithsonian Institution, been considered. It has been noted that the curators consider themselves primarily researchers; the librarians likewise consider the Smithsonian Institution Libraries to be a research library.

The survey findings indicate that a considerable proportion of curators' time (11 percent in Natural History and 18 percent in History and Technology) is devoted to responding to public inquiries. One of the strongest arguments put forth by curators for continued maintenance of department and division collections is the importance of these collections for answering public inquiries.

Beyond the maintenance of reference tools, however, the Libraries has no program to support public service activity. The Libraries should be involved in the development of a clearinghouse for public information which will centralize inquiries and filter them to an appropriate level of expertise. This clearinghouse activity could include a pilot program to link exhibits to an information data base. Such a project, if carefully designed and executed, could test the feasibility of integrating Museum collections into a user-oriented information system.

APPENDIX A

SMITHSONIAN INSTITUTION LIBRARIES **WASHINGTON, D. C. 20560**

January 26, 1971

Dear Colleague:

The enclosed questionnaire is part of a study of the development of library collections in the Smithsonian Institution. It has been prepared by Mrs. Elaine Sloan, a doctoral student at the University of Maryland School of Library and Information Services, who is a Visiting Research Associate at the Smithsonian Institution this year.

Your cooperation is very important in assuring that the results of this study are useful. It is my hope that the information gathered by Mrs. Sloan can aid in future policy planning for the Libraries. Please note that the study is concentrated at this time on the National Museum of History and Technology, and the National Museum of Natural History. It will serve as a guide to us in planning extended studies of needs, and plans to meet them, throughout the Institution.

Please return the completed questionnaire to Mrs. Sloan, NHB 24, by February 15, 1971. If you have any questions, please call Mrs. Sloan at 5178 or 5044. If she is not available please call my staff assistant, Dan Clemmer, at 5432.

Sincerely,

Russell Shank

Russell Shank
Director, S.I. Libraries

A. ASSESSMENT OF COLLECTIONS IN THE LIBRARIES OF THE SMITHSONIAN INSTITUTION

In column 1, briefly list the research projects or studies in which you have been involved during the past calendar year.

In column 2, please assess the collections of the libraries of the Smithsonian Institution in relation to your own projects and studies. Consider only the Smithsonian collections, not materials secured for you by the Smithsonian Libraries via interlibrary loan. Indicate the level at which the collections support your work:

Level 1 - supplies basic information (such as is contained in dictionaries, handbooks and encyclopedias)

Level 2 - covers current knowledge and most important historical aspects (such as is contained in textbooks and basic journals)

Level 3 - includes basic materials required for independent study (but lacks some significant materials)

Level 4 - includes most materials required for independent study

Column 1	Column 2			
Research Projects or Studies	Assessment of Library Collections (check one)			
	Level 1	Level 2	Level 3	Level 4
1.	( )	( )	( )	( )
2.	( )	( )	( )	( )
3.	( )	( )	( )	( )
4.	( )	( )	( )	( )
5.	( )	( )	( )	( )

3. Should any changes be made in the levels at which the collections of the libraries of the Smithsonian Institution support your work? _____Yes _____No

If yes, please describe the changes you desire for each project:

B. USE OF RESOURCES

In column 1, please list all of the different libraries and collections of documents that you have used in connection with your professional activities during the past calendar year. Include libraries and document collections used within and outside of the Smithsonian Institution. Please identify individually each collection used, including those maintained by departments or divisions of the Smithsonian Institution.

"Use" includes personal visits, written requests, phone calls by you or someone acting for you. "Use" does not include materials or services obtained by indirect means (e.g., "interlibrary loan").

In column 2, indicate the approximate frequency with which you used the collections. Place a "1" next to the library or document collection you used most frequently, a "2" for the next most frequently used, etc., until all are ranked.

In column 3, indicate the projects or studies (identified on the preceding page) for which you most frequently used the library or document collection. (You may identify the study or project by the order in which you listed it (e.g., "1", "2", etc.).

Column 1 Libraries and Document Collections Used (indicate location if necessary for identification)	Column 2 Rank by Frequency of Use	Column 3 Projects or Studies for which Primarily Used

4. For what reasons <u>other than the presence of relevant library materials</u> did you use the libraries listed on the preceding page? (e.g., was it because of convenience, comfort, ease of getting materials, speed of getting materials, or special services such as photocopying?)

Library or Document Collection Used	Reasons for Use
1. Your first ranked library:	_____
2. Your last ranked library:	_____
3. Your highest ranked library in the Smithsonian (if neither of the above):	_____

5. Should the libraries of the Smithsonian Institution collect materials in subject areas for which you now use other libraries or document collections?
_____Yes _____No

If <u>yes</u>, please list the subject areas or kinds of materials which the libraries of the Smithsonian Institution should collect:

_____

_____

_____

C. SELECTION OF MATERIALS

1. During the past year how many titles have you recommended or requested for acquisition by the libraries of the Smithsonian Institution?

in your own areas of interest? _____

in other subject fields? _____

2. How many titles do you think you would have recommended <u>if more funds had been available</u>?

in your own areas of interest? _____

in other subject fields? _____

3. In column 1, indicate how much responsibility each of the following has for the selection of titles in your own fields of interest.

   In column 2, indicate how much responsibility you believe each <u>should</u> have.

   Indicate amount of responsibility in percentages (e.g., 0% indicates no responsibility, 100% indicates total responsibility).

	Amount of Responsibility for Selection of Titles	
	At Present	Preferred
1. Curators	_____	_____
2. Department chairman	_____	_____
3. Librarians	_____	_____
4. Library Director	_____	_____

D. PROFESSIONAL ACTIVITIES

1. During the past calendar year, approximately what percent of your professional time was spent on each activity?

_____% in research activities

_____% in curatorial activities

_____% in teaching and lecturing

_____% in public service activities

_____% in administrative activities

_____% in other activities (please specify)

_____

Total 100 %

2. If additional funds could be made available this year for library purposes in the Smithsonian Institution, indicate in percentages—from 0% to 100%—how you would allocate these resources:

1. To speed up technical processing of materials (acquisitions, cataloging). _____%
2. To make the libraries more comfortable for reading and studying. _____%
3. To buy more journals. _____%
4. To increase photocopying facilities. _____%
5. To buy more reference and bibliographic materials (e.g., indexes, abstracts). _____%
6. To speed up the delivery of documents from one library to another. _____%
7. To buy more books. _____%
8. To hire more clerical and technical assistants. _____%
9. To hire more librarians. _____%
10. Other (Please specify). _____%

_____

Do you have any additional comments about the collections of the libraries of the Smithsonian Institution or any general comments about the libraries?

Name_____ Position_____
(will be deleted subsequent to analysis)

Department_____ Division_____

APPENDIX B

SMITHSONIAN INSTITUTION LIBRARIES WASHINGTON, D.C. 20560

February 19, 1971

Dear Colleague,

Although I realize that you are busy, I would like to urge you to return the questionnaire sent to you from the Smithsonian Institution Libraries on January 26.

The information which you provide will be extremely useful, both for the study itself and for future plans based upon the results of this study.

If you have any questions, please call Elaine Sloan at 5178 or 5044 or Dan Clemmer at 5432.

Sincerely,

Russell Shank

Russell Shank
Director, S.I. Libraries

APPENDIX C

Analysis of Questionnaire Returns

	NMNH Number	NMHT Number
Questionnaires sent	117	54
Questionnaires returned	68	29
Questionnaires eliminated due to incomplete information	4	1
Questionnaires analyzed	64	28
Questionnaires not returned	49	24
Did not reply	27	21
Refused	6	1
Retired or leave of absence	2	0
Not in D. C. area at time study was conducted	14	2

APPENDIX D

CODING SCHEME

COLUMN NUMBER		VARIABLE IDENTIFICATION	
1	Museum		
		0	National Museum of Natural History
		1	National Museum of History and Technology
2, 3	Department, Division		
4	Individual Identification Number		
5	Position	1	Curator
		2	Associate Curator
		3	Assistant Curator
		4	Non-curatorial - research
		5	Non-curatorial - administration
		6	Department Chairman
6	Supervisor	1	No
		2	Yes
7	Number of projects reported	1	1
		2	2
		3	3
		4	4
		5	5 or more
8	Assessment of collection	1	1.0 to 1.4
		2	1.5 to 1.9
		3	2.0 to 2.4
		4	2.5 to 2.9
		5	3.0 to 3.4
		6	3.5 to 3.9
		7	4.0
9	Number of libraries utilized	1	none or 1
		2	2
		3	3
		4	4
		5	5
		6	6
		7	7 or more

10	Number of Smithsonian Institution Libraries Utilized	
		1 1
		2 2
		3 3
		4 4
		5 5 or more
11	Primary library	1 Personal collection
		2 Department or divisional library
		3 Central library
		4 Outside SI
12	Number of requests in own field	1 None
		2 1 to 5
		3 6 to 10
		4 11 to 25
		5 26 to 50
		6 Over 50
		9 Did not know could
13	Number of requests in other fields	
		As above
14	Number of requests in own field if funds available	
		As above
15	Number of requests in other fields if funds available	
		As above
16	Indicated increase in number of requests if more funds available	
		1 No increase
		2 Increase
17	Perception of curator's responsibility	
		1 None
		2 Less than 50%
		3 50% or more
		4 100%
		9 Did not know about selection process

18	Perception of Department Chairmen's responsibility	
		As above
19	Perception of Librarians' responsibility	
		As above
20	Perception of Library Director's responsibility	
		As above
21	Preferred responsibility - "Don't knows" only	
		As above, except 0 not a "Don't know"
22-24	Preferred responsibility	As above
25-28	Preferred responsibility - others	
		As above, except 7 Was a "don't know" 9 Did not change
29	Primary activity	1 70% or more in research 2 50% to 70% in research 3 50% or more in administrative 4 50% or more in curatorial activity 5 Less than 50% in any one activity; primary activity - research 6 Less than 50% in any one activity; primary activity - none or other than research
30-39	Allocation of resources	1 None 2 1 to 10% 3 11 to 20% 4 21 to 30% 5 31 to 40% 6 41 to 50% 7 51 to 75% 8 75 to 99% 9 100%

FOOTNOTES

1
The theoretical framework of this study is based upon the concepts of "organizational domain" and "domain consensus" drawn from organization theory. An organization's domain is studied by examining the claims that it makes for itself in terms of the population which it serves, the services that it offers, and the resources that are available. The focus of this study is upon elements in the resource dimension of the Smithsonian Institution Libraries' domain: the selection of materials and the development of collections.

A critical aspect in the development of organizational domain involves the establishment of "domain consensus." Domain consensus occurs when significant elements in the organization's environment agree that the claims of the organization are valid. The "significant elements" docused upon in this study are the primary users of the Smithsonian Institution Libraries -- the curators.

The notions of domain and domain consensus were formulated in: Sol Levine and Paul E. White, "Exchange as a Conceptual Framework for the Study of Interorganizational Relationships," Administrative Science Quarterly, vol. 5, March, 1961, pp. 583-601. The application of these ideas to the study of a single organization is developed in: James D. Thompson, Organizations in Action. New York: McGraw-Hill Book Company, 1967, pp. 25-38.

2
Norman Baker, "A Descriptive Model of Library/User/Funder Behavior in a University Environment." Drexel Library Quarterly, vol. 4, no. 1, January 1968, pp. 16-30.

3

Mildred Benton, A. Study of Resources and Major Subject Holdings Available in U. S. Federal Libraries Maintaining Extensive or Unique Collections of Research Materials. U. S. Department of Health, Education, and Welfare, Office of Education, Bureau of Research, September, 1970.

4

Russell Shank, Regional Access to Scientific and Technical Information. New York Metropolitan Reference and Research Library Agency, Inc. 1968.

Some difficulties encountered in assigning collection levels are discussed on pp. B-34 and B-35.

5

Dagmar Hoina Perman, E., Bibliography and the Historian, Washington, D.C., Clio Press, 1968.

This treats many problems involved in providing bibliographic services to historians.

6

The stepwise regression technique begins with simple correlation coefficients (r), which describe relationships between variables one at a time. Multiple correlation coefficients (r) are calculated by adding, one at a time, those variables which contribute the most information (that is, are most highly correlated with) the criterion variable. The effect of variables already "built into" the multiple correlation coefficient is "partialled out" or held constant as each new variable is added. All correlation coefficients (r) reported in the study were generated by this technique on Natural History data; the complete intercorrelation matrix is on file. For further discussion of regression techniques see, William L. Hayes, Statistics, New York. Holt, Rinehart and Winston, 1963, pp. 490-577.

7

Edwin Olson, Edward S. Wainer, Vern M. Pings, Elaine Sloan and Richard H. Orr, "Relative Use Patterns of Libraries Serving Medical School Populations," in Robert G. Cheshrer, ed., Information In the Health Sciences: Working To The Future. Cleveland: Case-Western Reserve University Press (in press). This paper deals with patterns of library utilization.

8
Edwin E. Olson and James Liesner, An Experimental Educational Program in Library and Information Services. College Park, Md., University of Maryland, SLIS, August, 1970.

9
Dagmar H. Perman, op. cit., pp. 8-10. A survey of the bibliographical habits and needs of 50 historians engaged in teaching at colleges and universities indicated that the respondents "...relied on their university library for their research needs..." Interlibrary loan and the Library of Congress followed in frequency of use. The questionnaire is not reproduced, nor are the results reported in sufficient detail to make specific comparisons possible. The dependence of historians upon special archives and collections was noted.

10
T. J. Allen, et al, "Criteria For Selection of an Information Source," MIT PB 176899, September, 1967.

11
J. P. Danton, "University Library Book Selection Policy Revisited," International Library Review, January, 1971, pp. 61-65. There are several articles which discuss the issue; this is a recent example.

12
M. D. Carter and W. J. Bonk, Building Library Collections, New York: Scarecrow Press, Inc., 1969. This is perhaps the best general introduction to collection development and selection of materials.

13
Norman Dudley, "The Blanket Order," Library Trends, vol. 18, no. 3, January, 1970, pp. 318-327. The entire issue of Library Trends, edited by Rolland Stevens, is devoted to acquisitions for research libraries.

14
At the 1971 ALA Conference in Dallas, the Agricultural and Biological Sciences Subject Specialist Subsection of the Association of College and Research Libraries Subject Specialists Section presented a program on "Subject Specialists in Academic Libraries." Three papers were presented: Eldred Smith, "The Impact of the Subject Specialist in Academic Library Organization; Alan Taylor, "Academic Library Services and the Subject Specialist;" and Thomas Kirk, "The Role of Subject Specialists in Undergraduate Colleges."

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